



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,401	04/19/2004	David Bell	2004_0623	9925
513	7590	06/14/2006		
			EXAMINER	
			HON, SOW FUN	
			ART UNIT	PAPER NUMBER
			1772	

DATE MAILED: 06/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s) -
	10/826,401	BELL ET AL.
	Examiner Sow-Fun Hon	Art Unit 1772

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE \_\_\_\_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 30-60 is/are pending in the application.
  - 4a) Of the above claim(s) 49-53 is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_ is/are allowed.
- 6) Claim(s) 30-48 and 54-60 is/are rejected.
- 7) Claim(s) \_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. 10/416,213.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/19/04.
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_.

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 30-48, 54-60 are drawn to an article, classified in class 428, subclass 35.7.
  - II. Claims 49-53, drawn to a method, classified in class 427, subclass 404.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions II and I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make another and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the sheet-like substrate can be made by an alternate method with an extra step of adding an adhesive to the composition of the substantially planar self-supporting sheet, to allow the sheet to better receive a coating.
3. Because these inventions are independent or distinct for the reasons given above and have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.
4. During a telephone conversation with Matthew Jacob on May 2nd, 2006, a provisional election was made with traverse to prosecute the invention of Group I, claims 30-48, 54-60. Affirmation of this election must be made by applicant in replying to this Office action. Claims 49-53 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 30-48, 54-60 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Independent claims 30 and 44 fail to point out what is included or excluded by the claim language. These claims are omnibus type claims. 1) The phrase "preferably the polymer having a ... Tg" can be interpreted to mean that other polymers are acceptable, regardless of what the relative Tg is, or even whether there is a Tg; and the phrase "preferably added" can be interpreted to mean that addition at other times is acceptable. Correction is required. 2) The term "sheet-like" can be interpreted to mean anything in the form of a sheet. Clarification and/or correction is requested. 3) The limitation of "the sheet according to claim 30" lacks antecedent basis. Correction is required.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 30, 35, 37-38, 42-47, 54-60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Culbertson (US 4,571,363).

Regarding claims 30, 37, 44, Culbertson teaches a sheet-like substrate comprising a substantially non-polar material (polyester film is hydrophobic, base or support, column 1, lines 18-20) having coated onto at least one side thereon an anchor coating to aid subsequent coating thereon (primer coated, column 2, lines 20-21) of a coating or layer, characterized in that the anchor coating comprises (a) a polymer comprising an optionally substituted  $\alpha,\beta$  carboxylic acid of high acid value (crotonic acid copolymer, column 4, line 57); (b) a polymer comprising an alkyl methacrylate polymer which is an optionally unsubstituted  $\alpha,\beta$  carboxylic acid of low acid value (methyl methacrylate copolymer, column 4, lines 57-58) as defined by Applicant's specification (original claim 8); (c) a cross-linker to crosslink the coating composition (monomer to form the desired crosslinking, column 4, lines 20-24) and increase the Tg thereof as defined by Applicant's specification (original claim 1). Culbertson fails to teach that the subsequent coating or layer is polar.

However, Culbertson cites prior art in the background wherein the sheet-like substrate comprising a substantially non-polar material (polyester film is hydrophobic,

base or support, column 1, lines 18-20) and is primed with an anchor layer to aid subsequent coating of a polar coating or layer (water or alcohol based layers subsequently coated thereon, column 1, lines 24-30) for the purpose of providing the desired article.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have provided a polar coating or layer as the subsequent coating or layer in the sheet-like substrate of Culbertson, in order to provide the desired article, as taught by Culbertson.

Regarding claims 35, 38, Culbertson teaches that component (a) is present in an amount of approximately 50% by weight (50/50 blends, column 4, line 56) which is within the claimed range of from about 50% to about 90%, and about 5% to about 50%, by weight of the dry coat.

Regarding claims 42-43, Culbertson teaches that component (c) is present in an amount of from about 1% to 15% by weight (capable of intermolecular crosslinking, column 3, lines 45-48), which overlaps the claimed range of from about 0.1% to about 20%, or from about 1% to about 10% by weight of the dry coat.

Regarding claims 45-46, Culbertson teaches a water liquid carrier for the anchor coating (primer coating, aqueous dispersion, column 5, lines 25-30).

Regarding claim 47, Culbertson teaches that the anchor coating further comprises a wetting agent (column 5, lines 40-45).

Regarding claim 54, Culbertson teaches the product as discussed above. Even though product by process claims are limited by and defined by the process,

determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. See MPEP 2113 [R-1].

Regarding claims 55-56, Culbertson teaches that the sheet comprises a polyester which is oriented in at least one direction (biaxially stretched, column 2, lines 53-60).

Regarding claims 57-60, Culbertson teaches either packaging, as well as a label, comprising the sheet (film, column 6, lines 45-46), thus implying an article packaged with the packaging comprising the sheet.

7. Claims 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Culbertson as applied to claims 30, 35, 37-38, 42-47, 54-60 above, and further in view of Pears (US 3,819,773).

Culbertson teaches a sheet-like substrate comprising a substantially non-polar material having coated onto at least one side thereon an anchor coating to aid subsequent coating thereon of a polar coating or layer, characterized in that the anchor coating comprises (a) a polymer comprising an optionally substituted  $\alpha,\beta$  carboxylic acid of high acid value; (b) a polymer comprising an alkyl methacrylate polymer which is an optionally unsubstituted  $\alpha,\beta$  carboxylic acid of low acid value; (c) a cross-linker to crosslink the coating composition and increase the Tg thereof, as discussed above. Culbertson fails to teach that the subsequent polar coating or layer is a metal layer.

However, Pears teaches that a polyester film (polyethylene terephthalate, column 4, lines 54-65) coated with a polymer comprising an  $\alpha,\beta$  carboxylic acid (acrylic composition, column 3, lines 54-65) exhibits good adhesion to thin metal coatings for the purpose of providing barrier films (column 3, lines 41-50).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have provided a thin metal layer as the polar coating of Culbertson, in order to utilize the barrier properties of the thin metal coating, as taught by Pears.

8. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Culbertson in view of Pears as applied to claims 30-32, 35, 37-38, 42-47, 54-60 above, and further in view of Rudd (US 4,880,695).

Culbertson in view of Pears teaches a sheet-like substrate comprising a substantially non-polar material such as polyethylene terephthalate, having coated onto at least one side thereon an anchor coating to aid subsequent coating thereon of a polar metal barrier coating or layer, characterized in that the anchor coating comprises (a) a polymer comprising an optionally substituted  $\alpha,\beta$  carboxylic acid of high acid value; (b) a polymer comprising an alkyl methacrylate polymer which is an optionally unsubstituted  $\alpha,\beta$  carboxylic acid of low acid value; (c) a cross-linker to crosslink the coating composition and increase the Tg thereof, as discussed above. Culbertson in view of Pears fails to teach that the metal coating layer is aluminum.

However, Rudd teaches that polyethylene terephthalate when coated with a thin metallic layer such as aluminum, provides superior barrier properties for packaging and labels (PET, column 1, lines 54-66).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have provided an aluminum coating as the metal barrier coating layer of Culbertson in view of Pears, in order to utilize the barrier properties of aluminum, as taught by Rudd.

9. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Culbertson as applied to claims 30, 35, 37-38, 42-47, 54-60 above, and further in view of Jensen (US 5,662,985).

Culbertson teaches a sheet-like substrate comprising a substantially non-polar material having coated onto at least one side thereon an anchor coating to aid subsequent coating thereon of a polar coating or layer, characterized in that the anchor coating comprises (a) a polymer comprising an optionally substituted  $\alpha,\beta$  carboxylic acid of high acid value; (b) a polymer comprising an alkyl methacrylate polymer which is an optionally unsubstituted  $\alpha,\beta$  carboxylic acid of low acid value; (c) a cross-linker to crosslink the coating composition and increase the Tg thereof, as discussed above. Culbertson fails to teach that component (a) comprises a high acid imminated acrylic polymer.

However, Jensen teaches that an imminated anchor coating provides an overall adhesively active surface for thorough and secure bonding with the subsequently

applied coating (imine primer, column 8, lines 44-50). Jensen teaches an imminated acrylic polymer in the anchor coating layer (column 4, lines 14-20).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used an imminated acrylic polymer as part of component (a) in the anchor coating of Culbertson, in order to utilize the anchoring properties of the imminated acrylic polymer, as taught by Jensen.

10. Claims 36, 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Culbertson as applied to claims 30, 35, 37-38, 42-47, 54-60 above, and further in view

11. Claims 40-41, 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Culbertson as applied to claims 30, 35, 37-38, 42-47, 54-60 above, and further in view of Gutman (US 5,508,107).

Culbertson teaches a sheet-like substrate comprising a substantially non-polar material having coated onto at least one side thereon an anchor coating to aid subsequent coating thereon of a polar coating or layer, characterized in that the anchor coating comprises (a) a polymer comprising an optionally substituted  $\alpha,\beta$  carboxylic acid of high acid value; (b) a polymer comprising an alkyl methacrylate polymer which is an optionally unsubstituted  $\alpha,\beta$  carboxylic acid of low acid value; (c) a cross-linker to crosslink the coating composition and increase the Tg thereof, as discussed above.

Regarding claims 40-41, Culbertson teaches that the component (c) crosslinker can have N-methylol functionality, but fails to teach that it is an aziridine cross-linker, specifically a trimethylol-tris(N(methylaziridinyl)) propionate.

However, Gutman teaches that in order for an acrylic polymer composition (acrylate esters, column 3, lines 60-65) to exhibit the necessary water-resistance, the composition also contains an aziridine crosslinking agent, such as trimethylol-tris(N(methylaziridinyl)) propionate (column 6, lines 17-35).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used trimethylol-tris(N(methylaziridinyl)) propionate as the crosslinker with N-methylol functionality of Culbertson, in order to provide the necessary water-resistance for the finished article, as taught by Gutman.

Regarding claim 48, Culbertson fails to a means to inhibit the cross-linking component (c) in the anchor coating composition.

However, a means to inhibit the cross-linking component (c) in a composition for longer shelf-life prior to use, is notoriously well known in the art.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used a means to inhibit the crosslinking component of Culbertson, in order to prolong shelf-life prior to use, as is notoriously well known in the art.

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number (571)272-1492. The examiner can normally be reached Monday to Friday from 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (571)272-1498. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S. Hon.  
Sow-Fun Hon  
06/12/06

Harold Pyon  
HAROLD PYON  
SUPERVISORY PATENT EXAMINER  
1772  
6/12/06